



Image: A rooster on Windy Gowf Farm



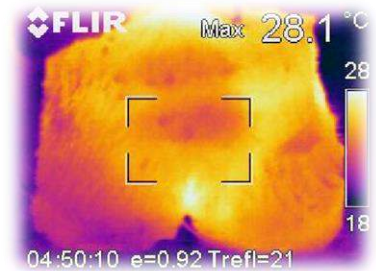
Scholarship

2012 Winners

Detection of Digital Dermatitis lesions in cattle using a thermal camera

SARAH HARLAND (VETERINARY SURGEON)

“Digital Dermatitis (DD) is a disease endemic on dairy farms across the country despite only being first documented in the UK in 1987. It is undoubtedly a welfare issue, causing ulcerative lesions at an individual level, with its infectious nature leading to problems at a herd level.”



Numerous topical / footbath treatments are regularly used on farms in an attempt to treat or control Digital Dermatitis (DD) in dairy cattle. There is a lack of data from controlled trials to support the efficacy of many treatments and their use is often based on no more than anecdotal evidence. Where trials have been undertaken they often involve washing the feet to evaluate lesions. The very act of foot washing could well be confounding the results of such studies.

This project sets out to develop a novel and robust methodology for evaluating the efficacy of foot washing alone and to design a test model to evaluate other topical treatment without needing to wash the feet to collect data:

Phase 1: A thermal camera (TC) and digital imaging software will be used to accurately assess lesion size and characteristics, and hence stage of disease, in comparison to the “gold standard” washing of feet and visual observation. This will characterise the TC as a diagnostic tool.

Phase 2: Investigating the clinical effect of foot washing in a longitudinal randomised control trial, to establish whether washing alone can control DD. Lesions will be recorded and evaluated with the TC, allowing some feet to remain unwashed.

A project to aid the Scottish Livestock Industry's understanding and awareness of psoroptic mange in cattle

LISA ROBERTS & LORNA PATERSON (REGIONAL MANAGERS, NFU SCOTLAND)

“There is still a huge level of potential of informing a wider audience of the risk and consequences of infestation. Clearly there is still an appetite for further information, which the audience highlighted at this initial stage.”



The objective was to raise awareness of psoroptic mange amongst Scottish farmers and vets and to assess its presence and mobility in Scottish cattle herd. The longer term objective is to access more samples for investigation by SAC and Moredun in the hope that it would assist in potentially developing a suite of more effective pour-on product vaccines.

Awareness-raising activities included:

- Designing and producing flyers and pop-up displays for events.
- Publishing an article in NFU Scotland's Scottish Farming Leader and highlighting in other NFU Scotland publications.
- Sending a text to one region of NFU Scotland (approx 700 members) to gauge level of awareness, knowledge and understanding of psoroptic mange.
- Developing a farmer survey to collate detailed information on farm businesses to help identify risk, source and potential transmission of psoroptes.
- Having blood samples and skin scrapings taken by farm vets and submitted to Moredun/SAC for analysis to determine the absence/presence of psoroptic mange.

A pilot study on the value of fallen stock necropsy to sheep farmers, with emphasis on ewe mortality

FIONA LOVATT (VETERINARY SURGEON, CO. DURHAM)

BEN STRUGNELL (VETERINARY INVESTIGATION OFFICER, THIRSK)

“This study has shown that it is possible to diagnose the cause of death from fallen stock. Whether used as a tool for national disease surveillance or at the farm level, ongoing use of this concept may prove useful for the sheep and other livestock industries.”



A survey was developed that focused on the causes of ewe mortality using carcasses submitted to a fallen stock collector in north east England. Annual ewe mortality is estimated at 5-10% (1-2 million ewes per year), so represents considerable losses to the industry.

The aims of this project included:

- A demonstration of the value of post mortem examinations of fallen stock to the sheep industry
- An assessment of the diagnostic quality of material
- An establishment of the costs associated with providing accurate necropsy-based diagnosis of common sheep diseases
- Pilot information on the approximate prevalence of ovine diseases, especially those for which there are limited diagnostic tests in the live animal (e.g. Johnes, OPA).